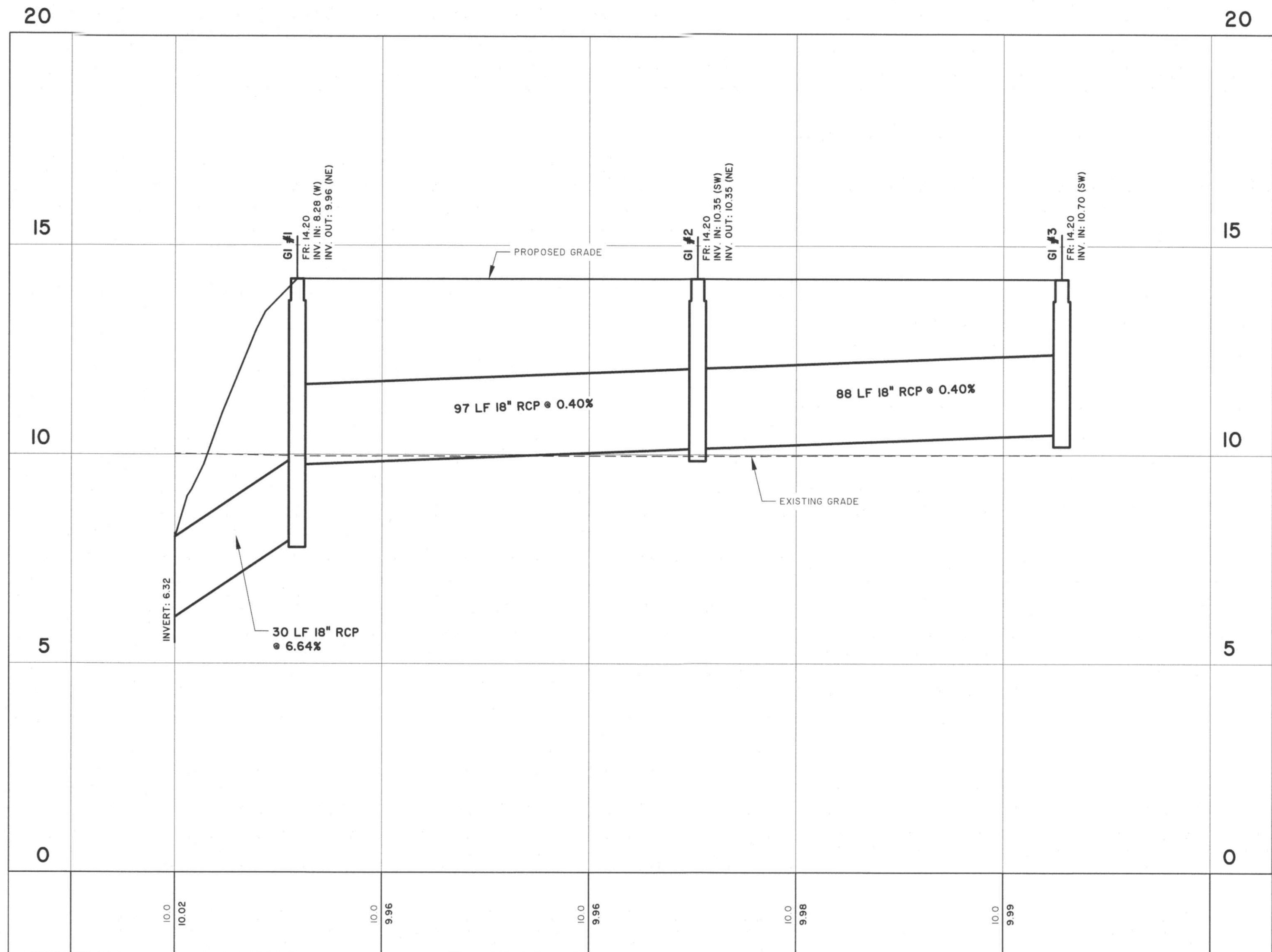


25328.0002-24 SD
STATIONS: -0+25 - 0+50
SCALE: HORZ.: 1" = 20'
VERT.: 1" = 2'



25328.0002-18 INCH SD
STATIONS: -0+25 - 2+50
SCALE: HORZ.: 1" = 20'
VERT.: 1" = 2'

KIAWAH RIVER PLANTATION HOLDINGS, LP

CHARLESTON COUNTY, SOUTH CAROLINA

KIAWAH RIVER PLANTATION WWTP PHASE I

STORM DRAIN PROFILES



THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting

682 Johnnie Dadds Boulevard • Suite 100
Mt. Pleasant, SC 29464 • 843.849.0200

www.thomasandhutton.com

JOB NO: J-25328-0002

DATE: 12/16/16

DRAWN: DF

DESIGNED: MFY

REVIEWED: MFY

APPROVED: MFY

SCALE: AS SHOWN



NO	BY	DATE
REVISIONS		

[illegible]

TH **THOMAS & HUTTON**
Engineering | Surveying | Planning | GIS | Consulting

682. Johnnie Dodds Boulevard • Suite 100
M1, Pleasant, SC 29464 • 843.849.0200

www.thomasandhutton.com

**KIAWAH RIVER PLANTATION
HOLDINGS, LP**
CHARLESTON COUNTY, SOUTH CAROLINA

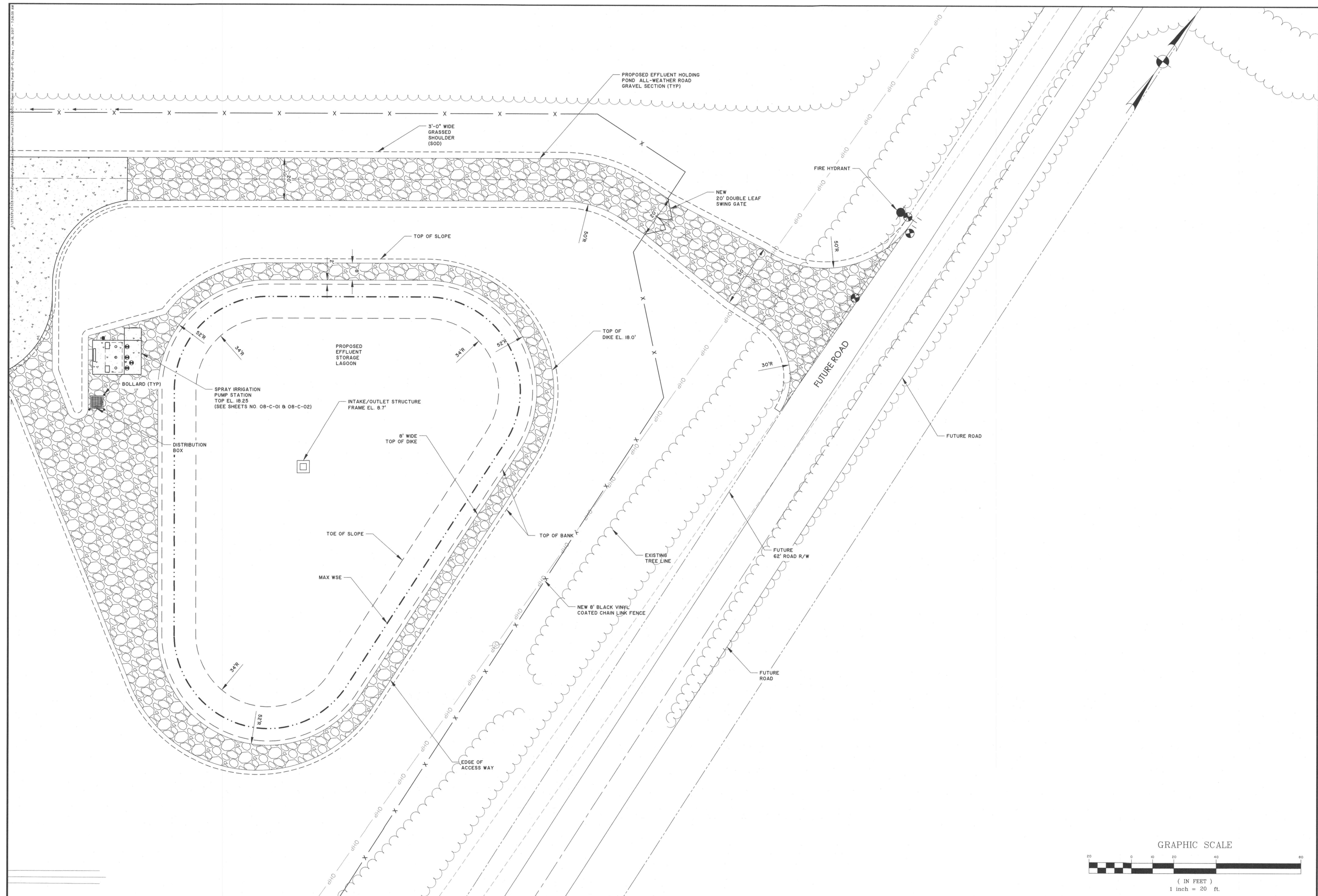
HOLDINGS, LP
CHARLESTON COUNTY, SOUTH CAROLINA

KIAWAH RIVER PLANTATION WWTP PHASE I

SITE LAYOUT PLAN - EFFLUENT STORAGE LAGOON

JOB NO:	J-25328.0002
DATE:	12/16/16
DRAWN:	DNF
DESIGNED:	MFY
REVIEWED:	MFY
APPROVED:	MFY
SCALE:	1" = 20'

07-C-01



[illegible]

TH **THOMAS & HUTTON**
Engineering | Surveying | Planning | GIS | Consulting

682 Johnnie Dodds Boulevard • Suite 100
Mt. Pleasant, SC 29464 • 843.849.0200

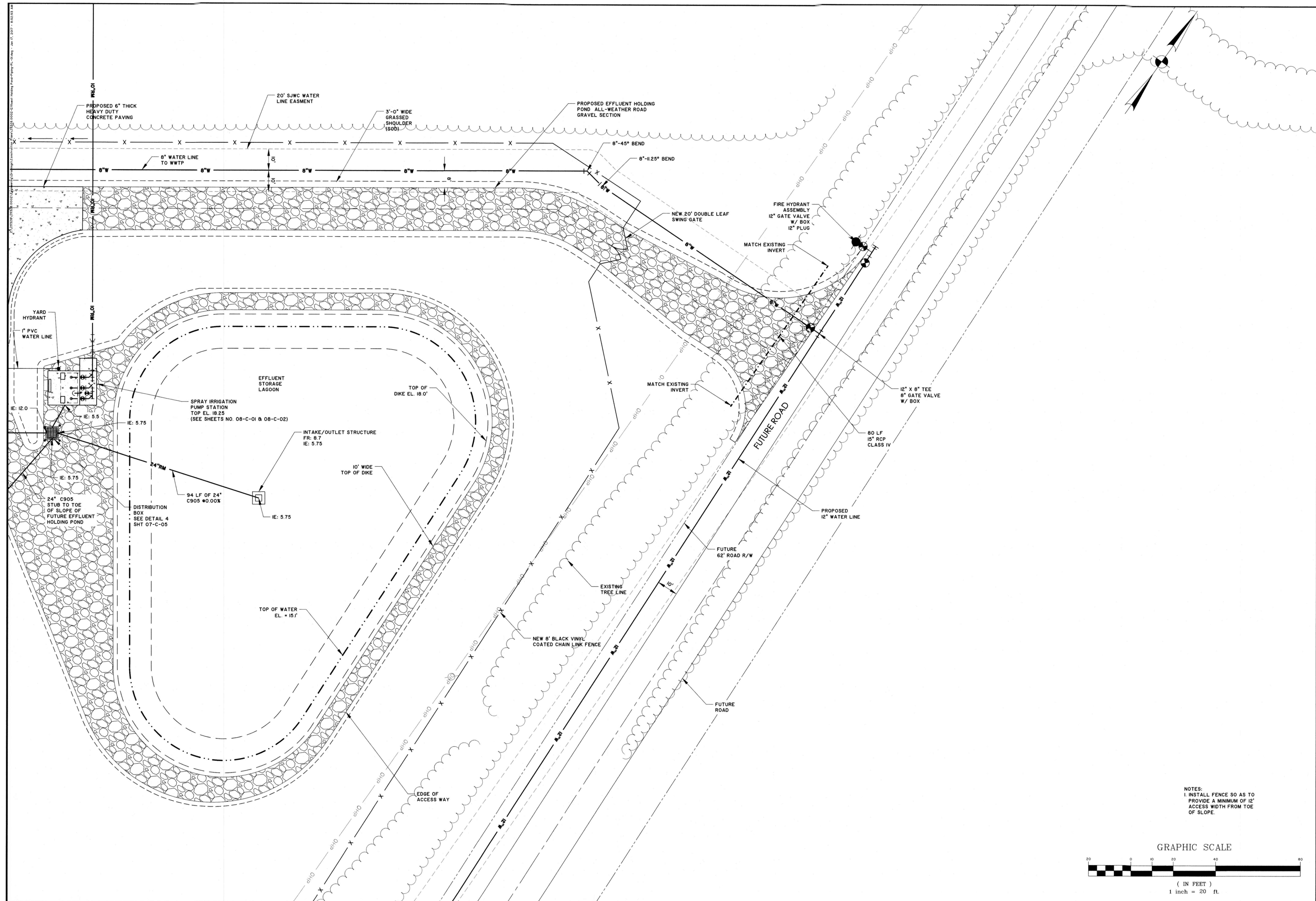
www.thomasandhutton.com

**KIAWAH RIVER PLANTATION
HOLDINGS, LP**
CHARLESTON COUNTY, SOUTH CAROLINA

KIAWAH RIVER PLANTATION WWTP PHASE I
PIPING PLAN - EFFLUENT STORAGE LAGOON

JOB NO:	J-25328.0002
DATE:	12/16/16
DRAWN:	DNF
DESIGNED:	MFY
REVIEWED:	MFY
APPROVED:	MFY
SCALE:	1" = 20'

07-C-02



[illegible]

TH **THOMAS & HUTTON**
Engineering | Surveying | Planning | GIS | Consulting

682 Johnnie Dadds Boulevard • Suite 100
Mt. Pleasant, SC 29464 • 843.849.0200

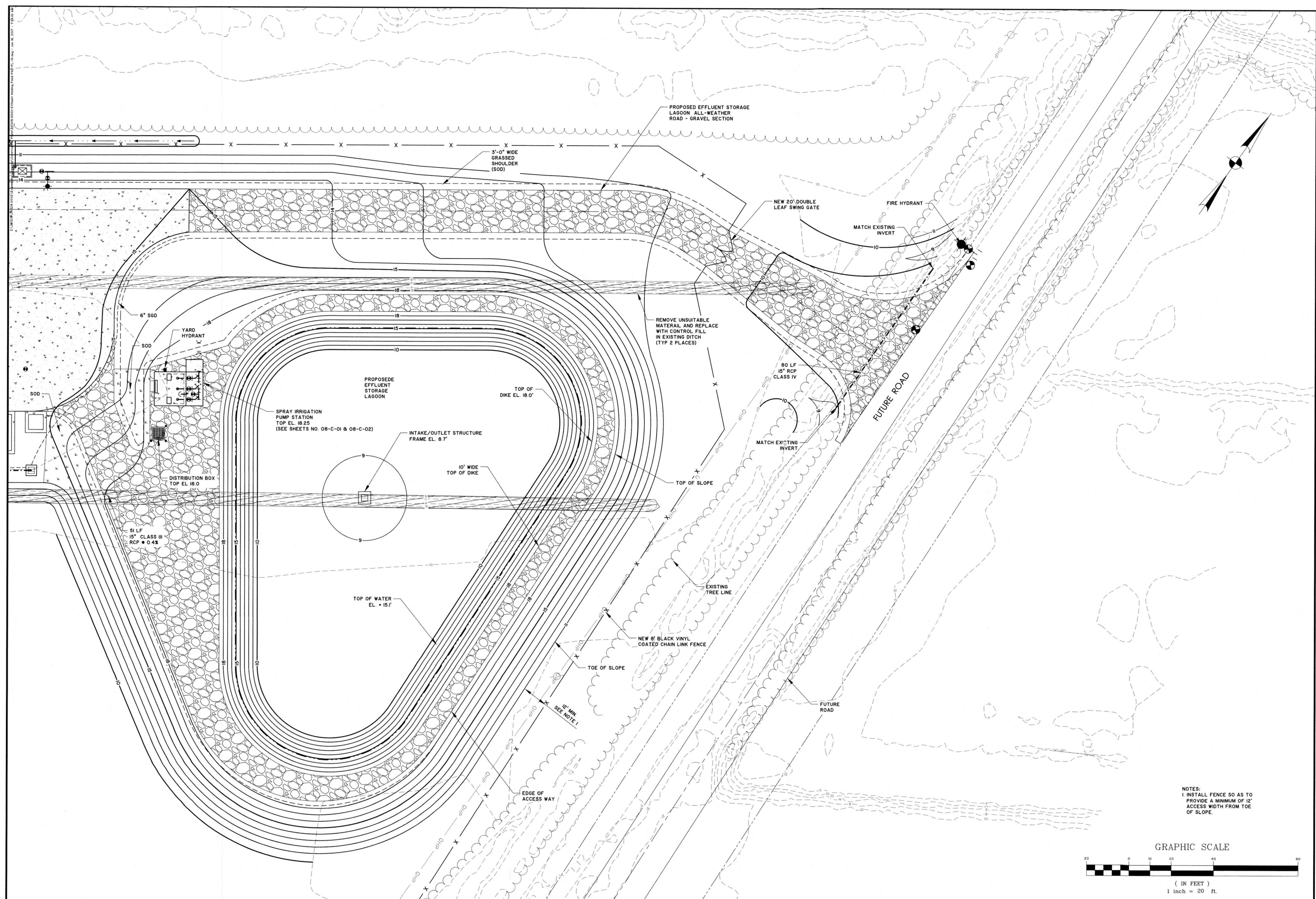
www.thomasandhutton.com

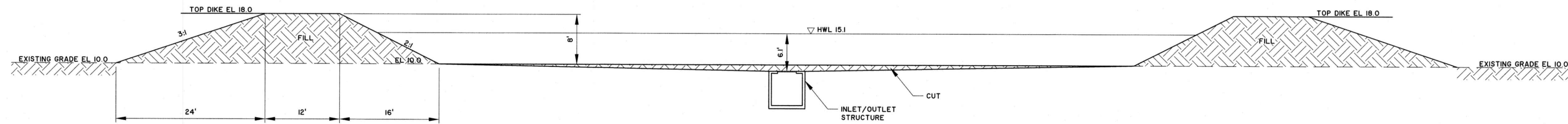
**KIAWAH RIVER PLANTATION
HOLDINGS, LP**
CHARLESTON COUNTY, SOUTH CAROLINA

KIAWAH RIVER PLANTATION WWTP PHASE I
PAVING GRADING & DRAINAGE PLAN - EFFLUENT STORAGE LAGOON

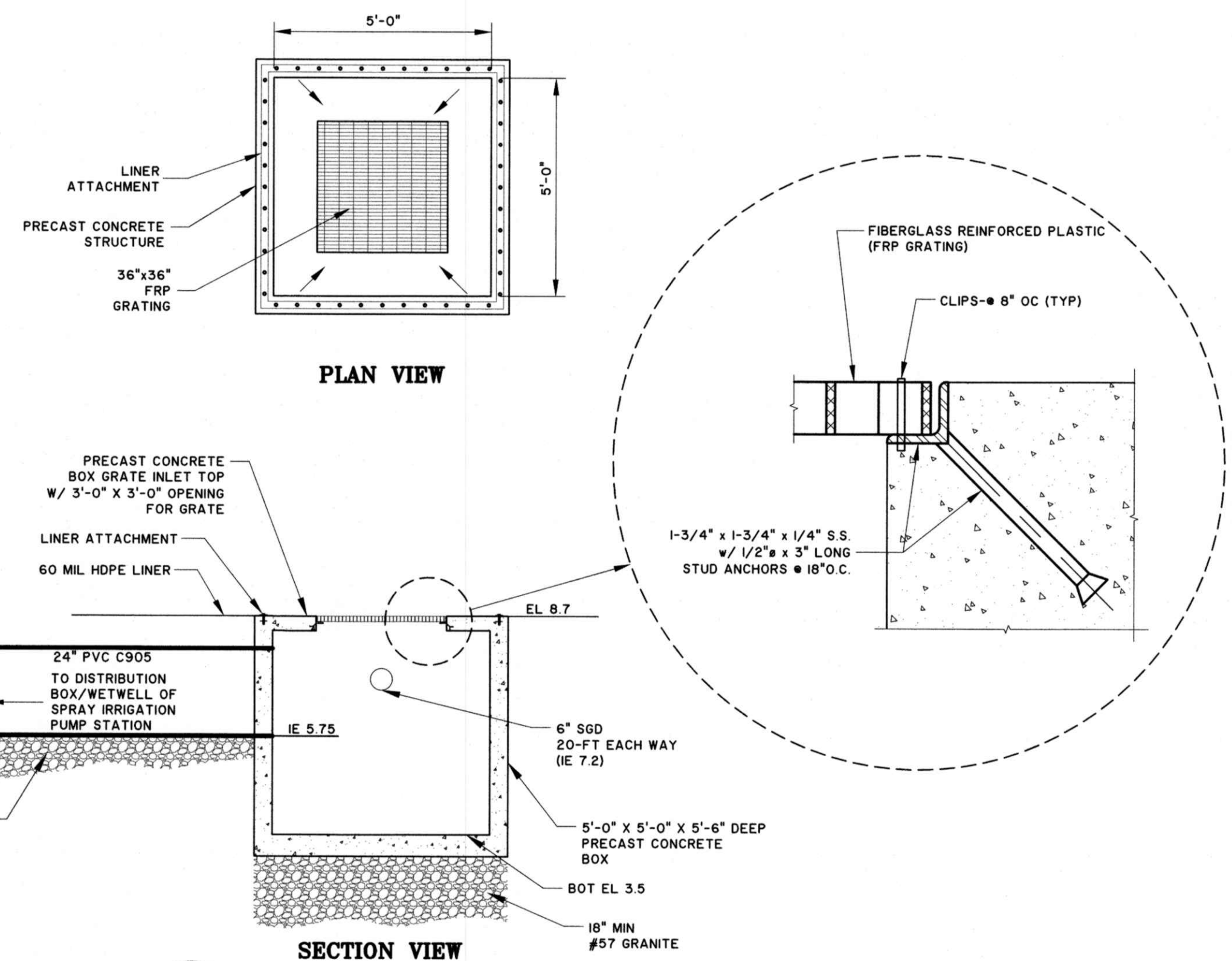
JOB NO:	J-25328.0002
DATE:	12/16/16
DRAWN:	DNF
DESIGNED:	MFY
REVIEWED:	MFY
APPROVED:	MFY
SCALE:	1" = 20'

07-C-03

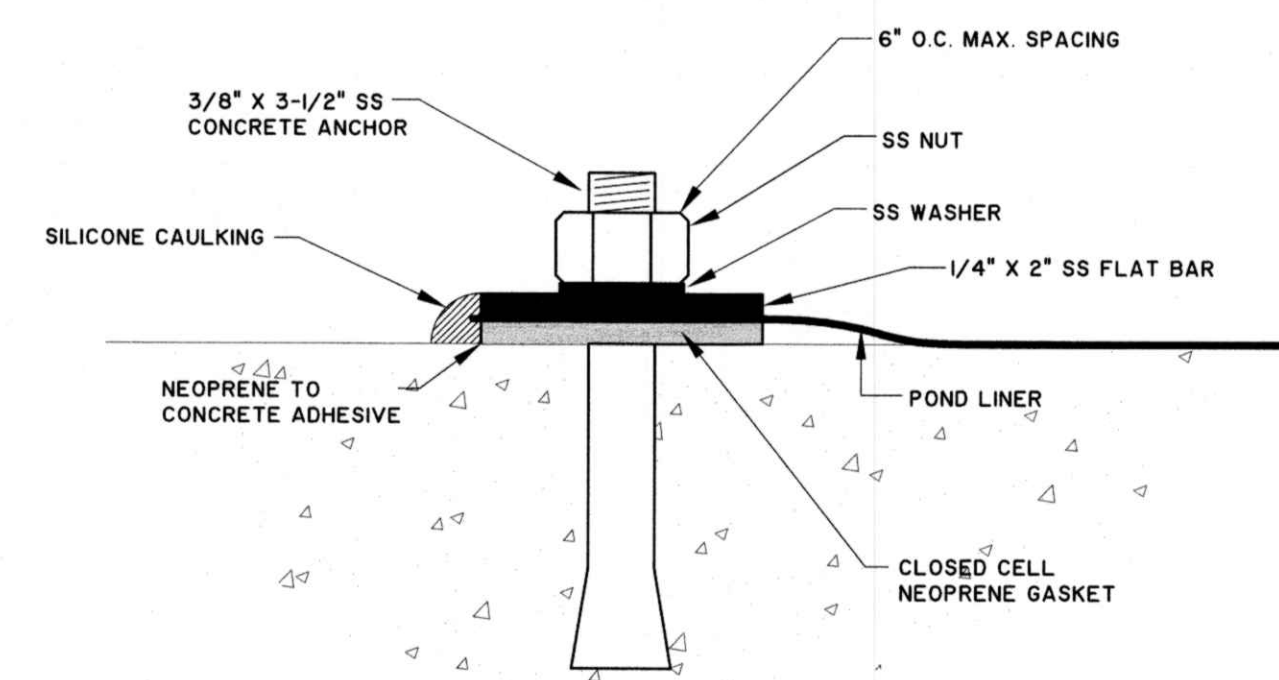




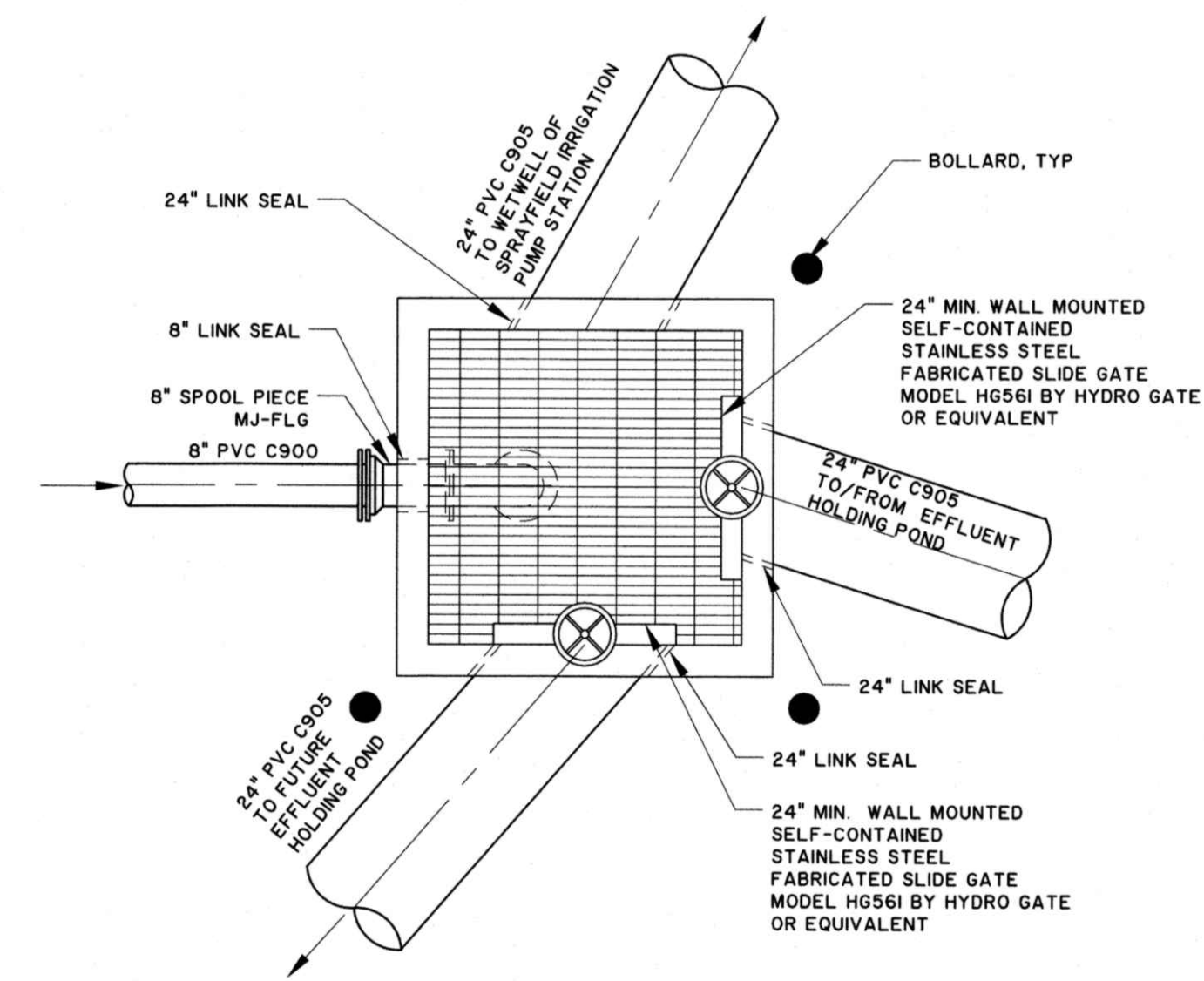
1 TYPICAL LAAGOON CROSS SECTION
07-C-05 SCALE: 1"=10'



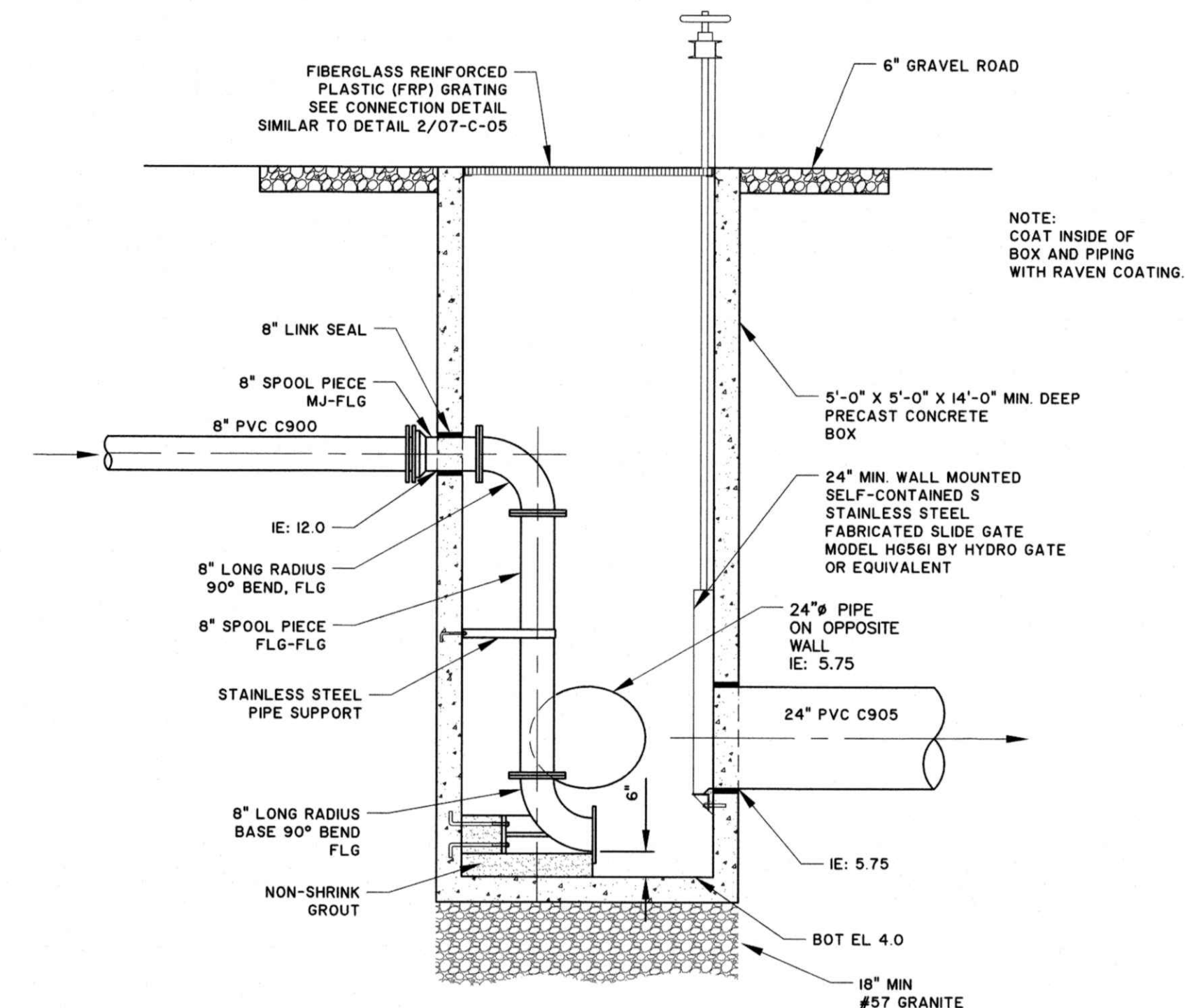
2 INTAKE/OUTLET STRUCTURE AT TREATED EFFLUENT LAAGOON
07-C-05 3/8" = 1'-0"



3 LINER ATTACHMENT TO CONCRETE
07-C-05 SCALE: NOT TO SCALE



4 DISTRIBUTION BOX - PLAN
07-C-05 3/8"=1'-0"



A SECTION
07-C-05 3/8"=1'-0"

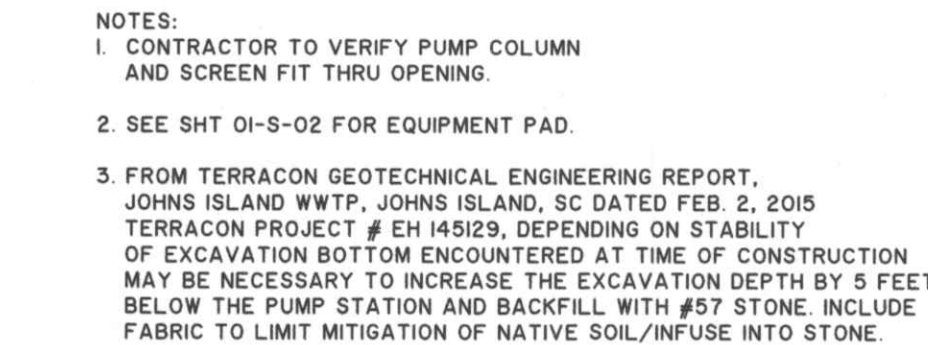
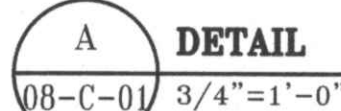
THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting

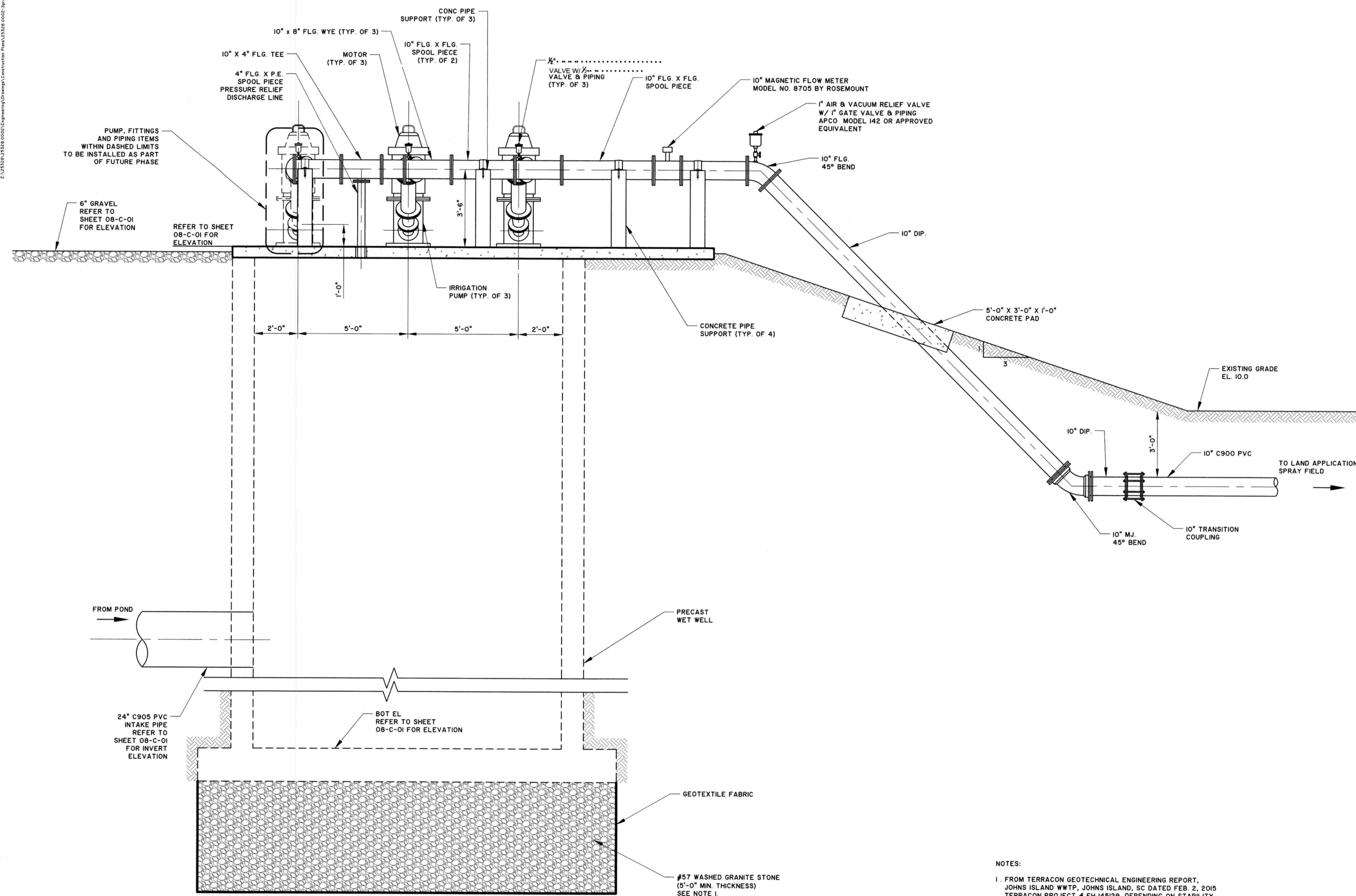
KIAWAH RIVER PLANTATION HOLDINGS, LP
CHARLESTON COUNTY, SOUTH CAROLINA

KIAWAH RIVER PLANTATION WWTP PHASE I DETAILS AND SECTIONS - EFFLUENT STORAGE LAAGOON

JOB NO: J-25328 0002
DATE: 12/16/16
DRAWN: DNF
DESIGNED: KEN
REVIEWED: MFT
APPROVED: MFT
SCALE: AS NOTED

07-C-05





2 SECTION
08-C-02 SCALE: 3/8"=1'-0"

NOTES:

1. FROM TERRACON GEOTECHNICAL ENGINEERING REPORT, JOHNS ISLAND WWTP, JOHNS ISLAND, SC DATED FEB. 2, 2015 TERRACON PROJECT # EH 145129, DEPENDING ON STABILITY OF EXCAVATION BOTTOM ENCOUNTERED AT TIME OF CONSTRUCTION MAY BE NECESSARY TO INCREASE THE EXCAVATION DEPTH BY 5 FEET BELOW THE PUMP STATION AND BACKFILL WITH #57 STONE. INCLUDE FABRIC TO LIMIT MITIGATION OF NATIVE SOIL/INFUSE INTO STONE.

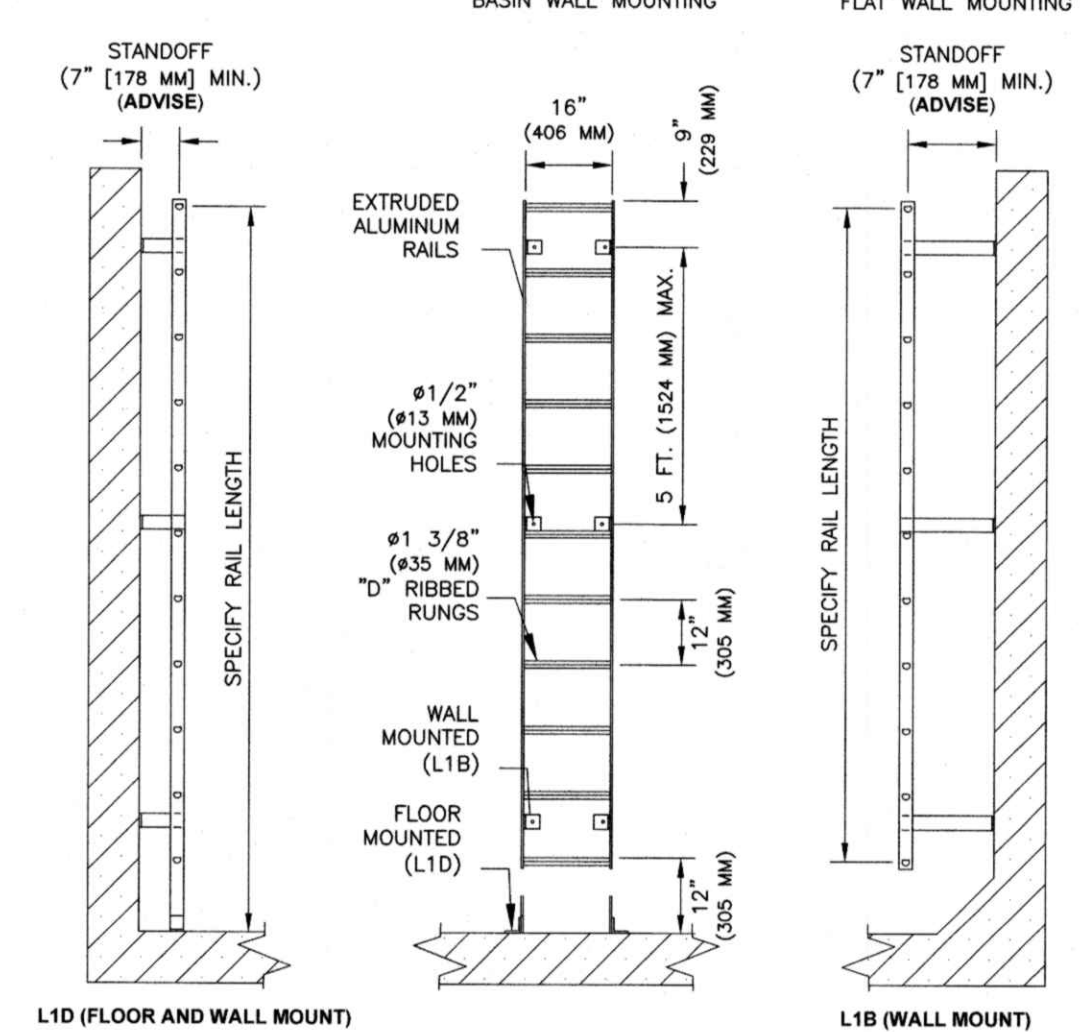
SERIES L1B and L1D LADDERS

STANDARD FEATURES:

- ALL ALUMINUM WELDED CONSTRUCTION
- 1 3/8 DIA. TYPE "D" RUNG WITH FLATE SLIP RESISTANT RIBBED RUNG DESIGN
- CUSTOM FIT WALL MOUNTED STANDOFFS
- FLOOR AND WALL OR WALL-ONLY MOUNTING (SPECIFY)
- FLAT OR ROUND WALL MOUNTING (SPECIFY)
- AVAILABLE IN WELDED STAINLESS STEEL CONSTRUCTION
- 3 YEAR GUARANTEE

REQUIRED INFORMATION:

- BASIN DIAMETER OR FLAT WALL
- RAIL LENGTH IN FEET
- STANDOFF LENGTH (7" [178 MM] MIN.)
- L1B OR L1D MOUNTING

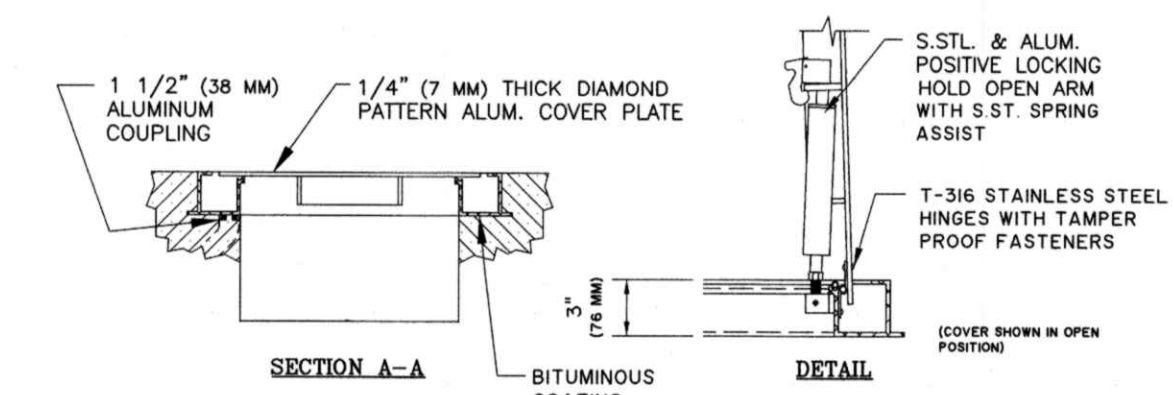
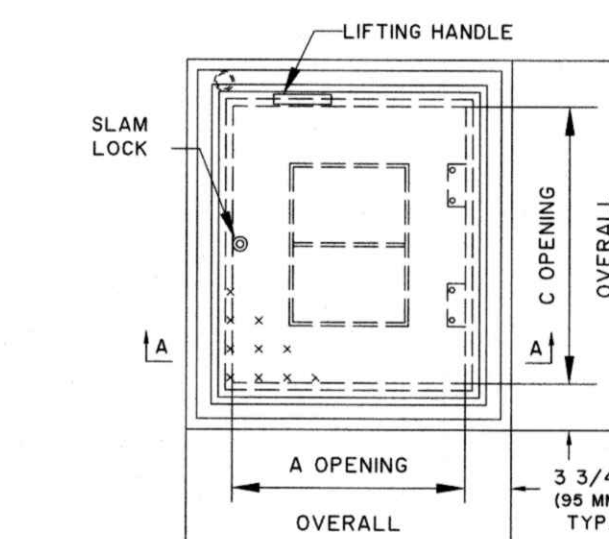


SERIES W1S ACCESS DOOR

STANDARD FEATURES:

- AUTO-LOCK T-316 STAINLESS STEEL
- HOLD OPEN ARM WITH RELEASE HANDLE
- T-316 STAINLESS STEEL HINGES AND ATTACHING HARDWARE
- 1/4" STAINLESS STEEL SLAM LOCK WITH REMOVABLE KEY
- STAINLESS STEEL COMPRESSION SPRING ASSIST
- BUILT-IN NEOPRENE GASKET TO LIMIT THE TRANSMISSION OF ODORS
- NON-OZONE DEPLETING BITUMINOUS COATING
- SINGLE LEAF CONSTRUCTION
- 350 LBS. PER SQUARE FOOT LOAD RATING (1464 KG. PER SQ. METER LOAD RATING)
- EXTRUDED ALUMINUM CHANNEL FRAME
- RECESSED LIFTING HANDLE
- LIFETIME GUARANTEE

STANDARD SIZES					
QTY	MODEL NO.	A DIM INCHES (mm)	C DIM INCHES (mm)	UNIT LBS. (KG)	UNIT LBS. (KG)
	WIS2424	24 (603)	24 (603)	46 (20)	
	WIS4040	24 (603)	40 (1016)	51 (23)	
	WIS4040	24 (603)	40 (1016)	51 (23)	
	WIS4442	24 (603)	42 (1067)	77 (35)	
	WIS4448	24 (603)	48 (1219)	85 (38)	
	WIS3030	30 (762)	30 (762)	62 (28)	
	WIS3036	30 (762)	36 (914)	69 (31)	
	WIS3042	30 (762)	42 (1067)	77 (35)	
	WIS3048	30 (762)	48 (1219)	85 (38)	
	WIS3054	30 (762)	54 (1372)	99 (44)	
	WIS3060	30 (762)	60 (1524)	102 (46)	
	WIS3536	36 (914)	36 (914)	76 (34)	
	WIS3642	36 (914)	42 (1067)	79 (35)	
	WIS3648	36 (914)	48 (1219)	97 (43)	
	WIS3654	36 (914)	54 (1372)	107 (49)	
	WIS5660	36 (914)	60 (1524)	187 (83)	
	WIS5666	36 (914)	66 (1676)	126 (57)	
	WIS5672	36 (914)	72 (1829)	135 (60)	
	WIS4242	42 (1067)	42 (1067)	107 (49)	



SER-WIS-N 07/27/06

TH **THOMAS & HUTTON**
Engineering | Surveying | Planning | GIS | Consulting

**KIAWAH RIVER PLANTATION
HOLDINGS, LP**
CHARLESTON COUNTY, SOUTH CAROLINA

KIWAHA RIVER PLANTATION WWTP PHASE I

www.thomasandhutton.com

EFFLUENT PUMP STATION SECTION AND DETAILS

JOB NO:	J-25328.0002
DATE:	12/16/16
DRAWN:	DNF
DESIGNED:	KEN
REVIEWED:	MFY
APPROVED:	MFY
SCALE:	AS NOTED

08-C-02

[illegible]

THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting

www.thomasandhutton.com

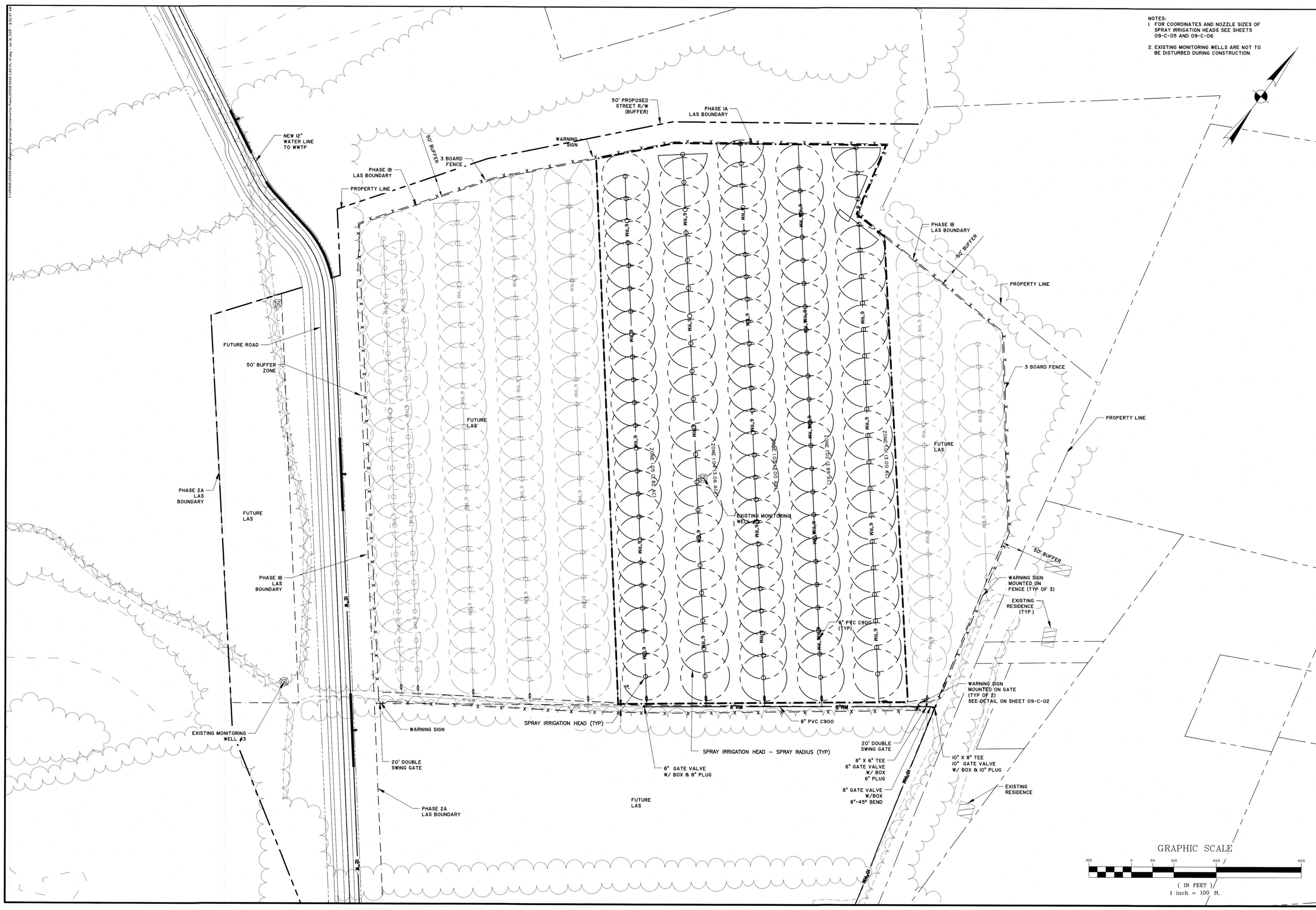
**KIAWAH RIVER PLANTATION
HOLDINGS, LP**
CHARLESTON COUNTY, SOUTH CAROLINA

KIAWAH RIVER PLANTATION WWTP PHASE I

PIPING PLAN - LAS

JOB NO:	J-25328.0002
DATE:	12/16/16
DRAWN:	DNF
DESIGNED:	KEN
REVIEWED:	MFY
APPROVED:	MFY
SCALE:	1"=100'

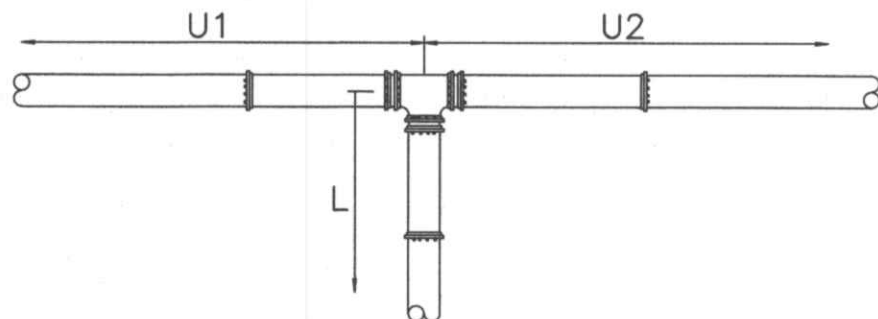
09-C-01



DUCTILE IRON LINE		PVC LINE	
PIPE DIA.	L	PIPE DIA.	L
4	28	4	52
6	40	6	74
8	52	8	96
10	62	10	115
12	73	12	136
16	94		
20	114		
24	132		

NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.

DEAD END RESTRAINT

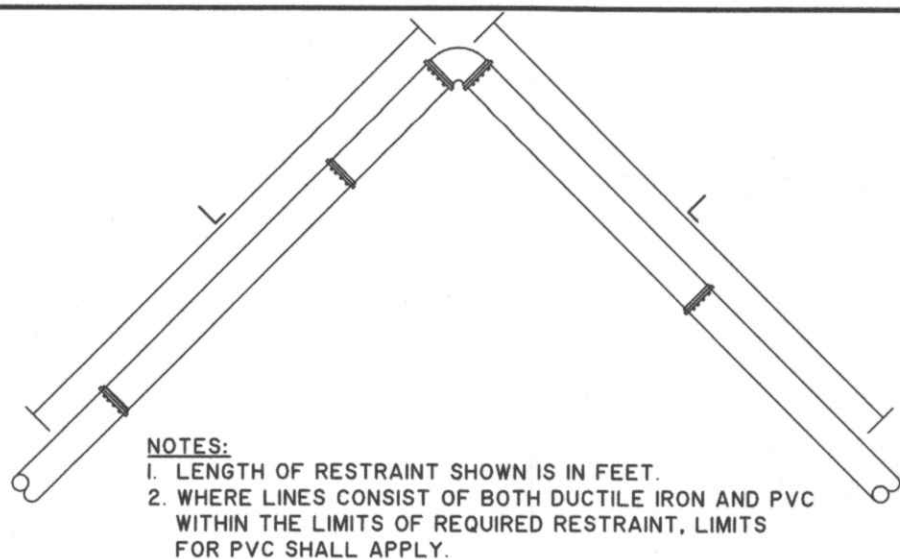


NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. U1 AND U2 = UNINTERRUPTED STRAIGHT RUNS OF PIPE IN EACH DIRECTION.
4. U_r = THE SMALLER OF U1 OR U2.
5. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.
6. WHERE U_r IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.

DUCTILE IRON LINE							
TEE	U _r	5'-10'	11'-20'	21'-35'	36'-50'	50'-75'	75'-100'
4X4	23	15	2	*	*	*	*
6X4	21	9	*	*	*	*	*
6X6	35	27	14	*	*	*	*
8X4	18	3	*	*	*	*	*
8X6	33	23	5	*	*	*	*
8X8	47	39	26	6	*	*	*
10X4	16	*	*	*	*	*	*
10X6	31	18	*	*	*	*	*
10X8	46	36	19	*	*	*	*
10X10	57	49	36	17	*	*	*
12X4	13	*	*	*	*	*	*
12X6	30	14	*	*	*	*	*
12X8	44	32	13	*	*	*	*
12X10	56	47	31	7	*	*	*
12X12	68	60	47	28	*	*	*
16X6	26	4	*	*	*	*	*
16X8	41	25	*	*	*	*	*

MINIMUM RESTRAINED LENGTH (L)
*RESTRAIN AT TEE ONLY.

TEE RESTRAINT (DUCTILE IRON LINE)



NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.

PVC LINE				
BEND ANGLE				
PIPE DIA.	11 1/2°	22 1/2°	45°	90°
4	3	6	12	29
6	4	8	17	41
8	5	11	22	53
10	6	13	26	64
12	7	15	31	75

DUCTILE IRON LINE				
	BEND ANGLE			
PIPE DIA.	11 1/2°	22 1/2°	45°	90°
4	2	4	8	20
6	3	6	12	28
8	4	7	15	36
10	4	9	18	43
12	5	10	21	51
16	6	13	27	65
20	8	16	33	79
24	9	18	38	92

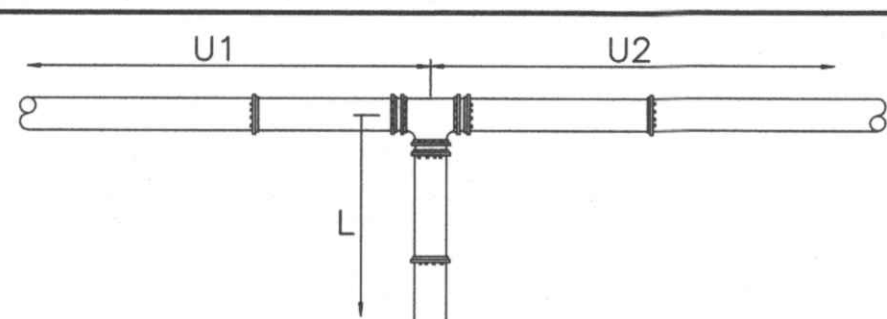
MINIMUM RESTRAINED LENGTH (L)

HORIZONTAL BEND RESTRAINT

DUCTILE IRON LINE		REDUCER	
REDUCER	U	U	L
6X4	30	21	
8X4	72	38	
8X6	29	22	
10X4	123	51	
10X6	63	38	
10X8	26	21	
12X4	186	64	
12X6	106	53	
12X8	59	39	
12X10	26	21	
16X6	214	79	
16X8	141	68	
16X10	91	56	
16X12	54	40	
20X10	174	84	
20X12	123	71	
20X16	51	40	
24X12	207	97	
24X16	113	72	
24X20	48	39	

NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.

REDUCER RESTRAINT

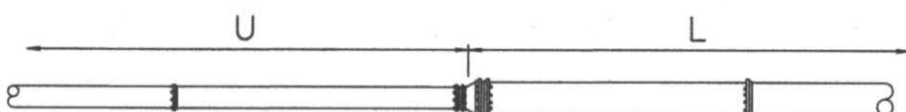


NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET.
2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
3. U1 AND U2 = UNINTERRUPTED STRAIGHT RUNS OF PIPE IN EACH DIRECTION.
4. U_r = THE SMALLER OF U1 OR U2.
5. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.
6. WHERE U_r IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.

PVC LINE					
TEE	U _r	5'-10'	11'-20'	21'-35'	> 35'
4X4	43	28	4	*	*
6X4	38	17	*	*	*
6X6	64	49	25	*	*
8X4	34	6	*	*	*
8X6	61	42	10	12	*
8X8	87	72	48	*	*
10X4	29	*	*	*	*
10X6	58	34	*	*	*
10X8	84	66	35	31	*
10X10	106	91	67	*	*
12X4	24	*	*	*	*
12X6	54	26	*	*	*
12X8	82	60	23	13	*
12X10	104	86	57	51	*
12X12	126	112	87		

MINIMUM RESTRAINED LENGTH (L)
*RESTRAIN AT TEE ONLY.

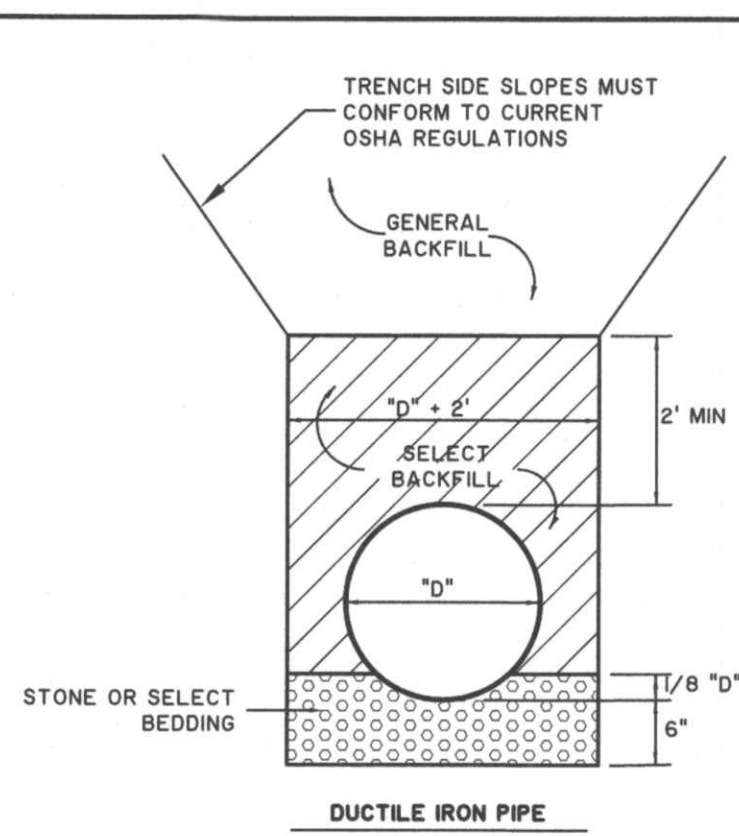
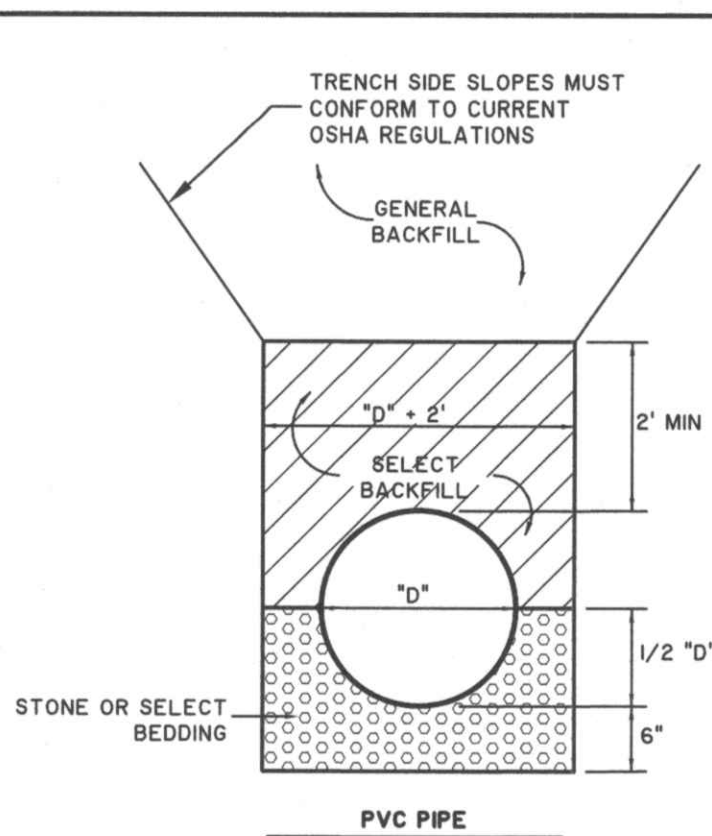
TEE RESTRAINT (PVC LINE)



U = MINIMUM UNINTERRUPTED STRAIGHT RUN OF PIPE ON SMALL SIDE OF REDUCER.

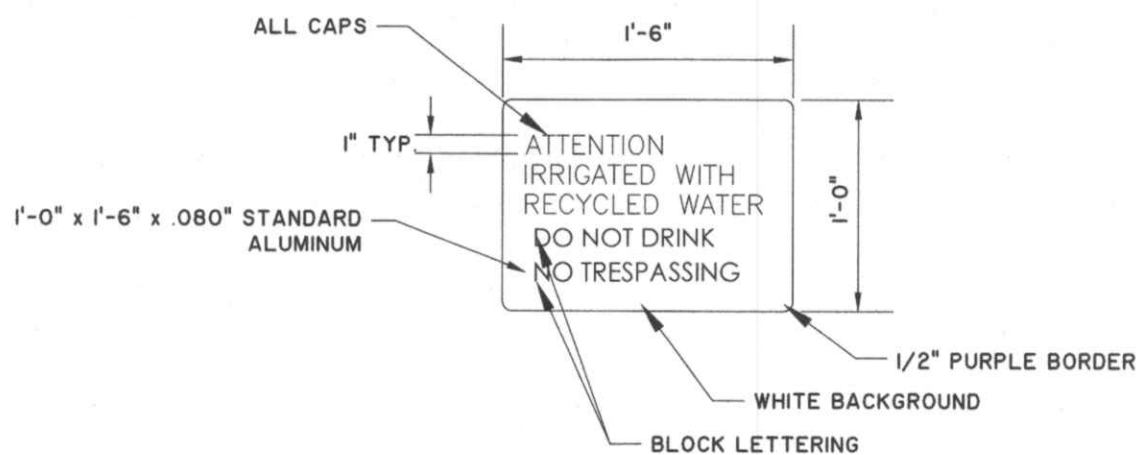
L = MINIMUM RESTRAINED LENGTH.

* WHERE MINIMUM "U" IS NOT MET, PIPE ON LARGE SIDE OF REDUCER SHALL BE RESTRAINED FOR A MINIMUM OF "L" FEET.



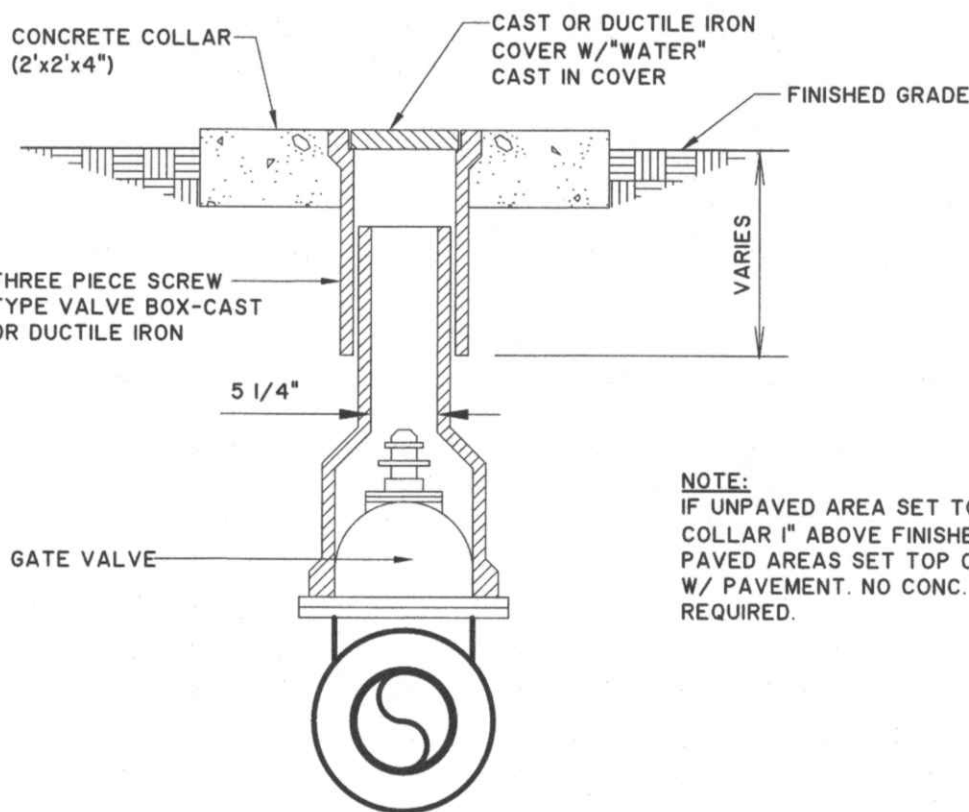
PIPE BEDDING DETAILS

SCALE: NONE



WARNING SIGN DETAIL

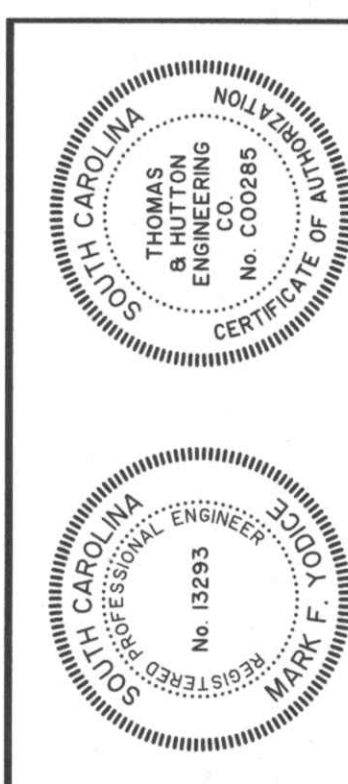
SCALE: NONE



NOTE:
IF UNPAVED AREA SET TOP OF CONC. COLLAR 1" ABOVE FINISHED GRADE. IN PAVED AREAS SET TOP OF BOX FLUSH W/ PAVEMENT. NO CONC. COLLAR REQUIRED.

VALVE BOX DETAIL

SCALE: NONE



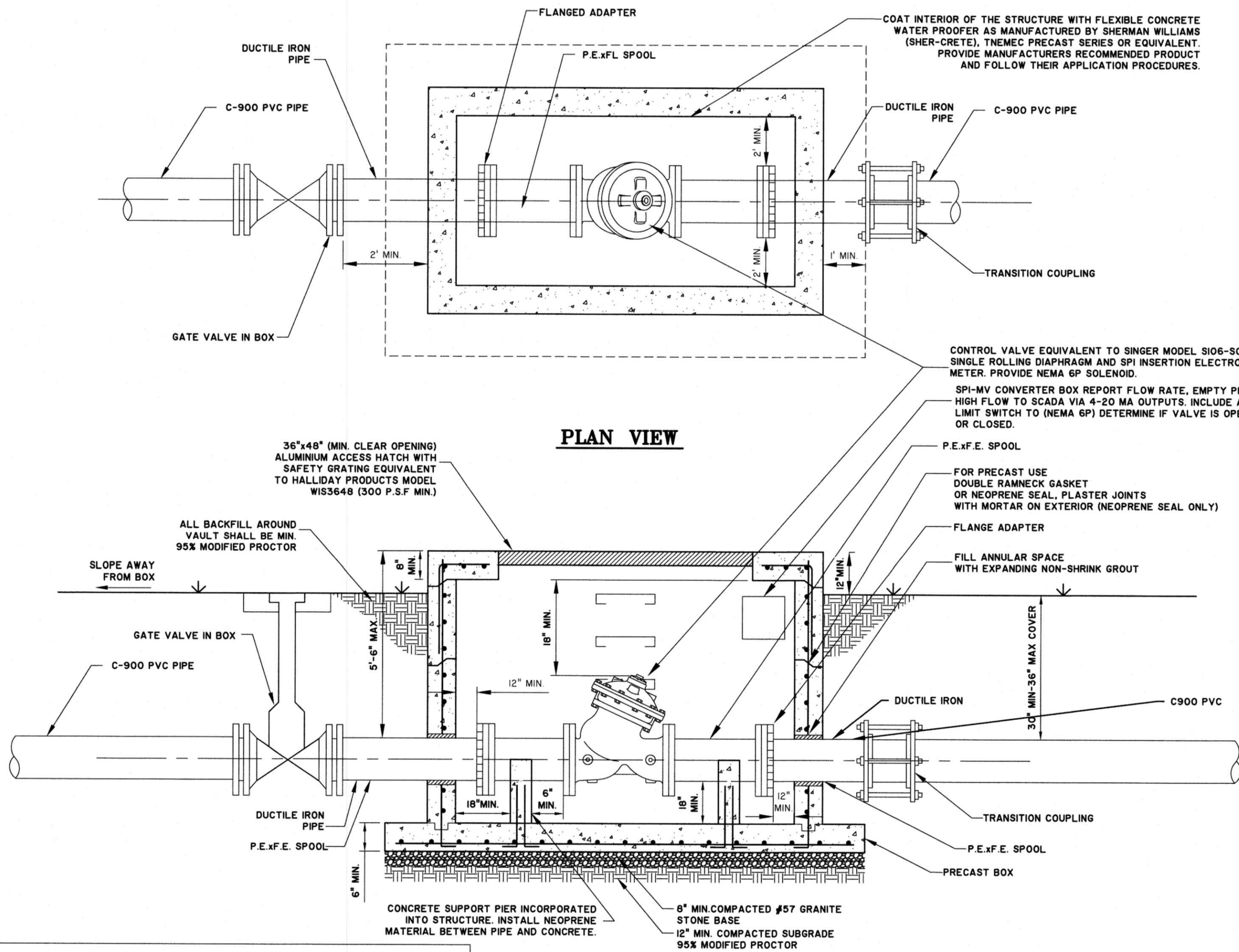
NO.	REVISIONS	DATE	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting
www.thomasandhutton.com

KIAWAH RIVER PLANTATION HOLDINGS, LP
CHARLESTON COUNTY, SOUTH CAROLINA
KIAWAH RIVER PLANTATION WWTP PHASE I DETAILS AND SECTIONS - LAS

JOB NO:	J-25328 0002
DATE:	12/16/16
DRAWN:	DNF
DESIGNED:	KEN
REVIEWED:	MFY
APPROVED:	MFY
SCALE:	AS NOTED

09-C-02



NOTE:

- LAS SYSTEM SUPPLIER SHALL PROVIDE SHOP DRAWINGS CONTAINING AT LEAST:
1. SYSTEM LAYOUT
 2. PRODUCTS
 3. IRRIGATION SPRAY COVERAGE
 4. FLOW, HEAD LOSS, AND PRESSURE CALCULATIONS

LAS CONTROL VALVE ASSEMBLY

SCALE: NTS

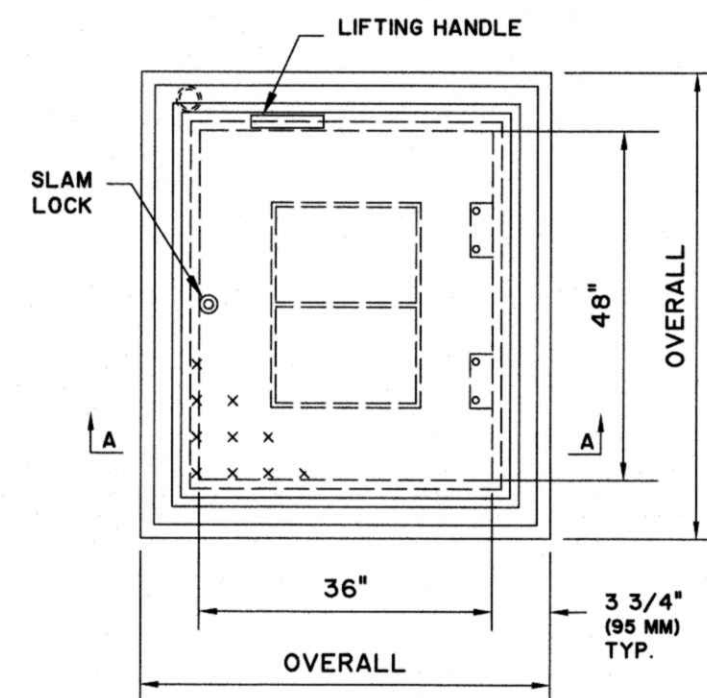
STRUCTURE NOTES:

1.00 PRECAST CONCRETE

- 1.01 PRECAST CONCRETE DESIGN, MANUFACTURE AND ERECTION SHALL CONFORM TO THE FOLLOWING:
 - A. ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION
 - B. PCI MNL-117 "MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF PRECAST CONCRETE PRODUCTS", LATEST EDITION
 - C. PCI DESIGN HANDBOOK, LATEST EDITION
- 1.02 PRE-CAST CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- 1.03 REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE.
- 1.04 PRECAST MANUFACTURER IS RESPONSIBLE FOR THE STRUCTURAL DESIGN OF PRECAST ELEMENTS AND THEIR CONNECTIONS. DESIGN SHALL BE PERFORMED BY A STRUCTURAL ENGINEER REGISTERED IN THE PROJECT STATE. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED. REVIEW OF CALCULATIONS AND SHOP DRAWINGS SHALL BE FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SHALL NOT RELIEVE CONTRACTOR AND ITS ENGINEER OF THE FULL RESPONSIBILITY FOR DESIGN OF PRECAST AND CONNECTIONS. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE COMPLETED AND REVIEWED.
- 1.05 DESIGN OF PRECAST MEMBERS AND CONNECTIONS SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
 - A. DEAD LOAD = ACTUAL WEIGHT OF STRUCTURE + EQUIPMENT
 - B. LIVE LOAD = 300 PSF MIN.
 - C. WIND LOAD = NOT APPLICABLE
 - D. LATERAL EARTH PRESSURE = 200 PSF MIN.
 - E. SEISMIC LOADS = 0.086 * W (DETERMINE "W" IN ACCORDANCE WITH ASCE 7-10)
 - F. UNLESS NOTED OTHERWISE ALL EXPOSED STEEL ANCHORS AND PLATES SHALL BE 316 STAINLESS STEEL.
- 1.07 REPRODUCED COPIES OF ASTM C1433 "STANDARD SPECIFICATION FOR PRECAST REINFORCED CONCRETE MONOLITHIC BOX SECTIONS FOR CULVERTS, STORM DRAINS AND SEWERS" WILL NOT BE ACCEPTED AS A SUBSTITUTE.
- 1.08 DURING HANDLING, STORAGE, AND TRANSPORTING, LIFT AND SUPPORT MEMBERS ONLY AT THE LIFTING AND SUPPORT POINTS SHOWN ON THE SHOP DRAWINGS. USE PROPER EQUIPMENT AND METHODS OF BRACING DURING TRANSPORTATION TO INSURE MEMBERS WILL ARRIVE AT THE JOB SITE UNDAMAGED. PROVIDE PADDING TO PREVENT CHIPPING OF THE CONCRETE.
- 1.09 IF CAST-IN LIFTING LOOPS OR INSERTS ARE USED, CUT OFF LOOPS OR INSERTS A MINIMUM OF 1/2" BELOW SURFACE AND FILL RECESS WITH AN EPOXY GROUT ACCEPTED BY THE ENGINEER.

2.00 STRUCTURAL FILL AND COMPACTION

- 2.01 THE SOILS TO BE USED AS STRUCTURAL FILL SHALL BE FREE OF ORGANICS, ROOTS, OR OTHER DELETERIOUS MATERIALS. IT SHALL BE NON-PLASTIC GRANULAR MATERIAL CONTAINING LESS THAN 25 PERCENT FINES PASSING THE NO. 200 SIEVE.
- 2.02 ALL STRUCTURAL FILLS SHALL BE PLACED IN THIN (EIGHT TO TEN INCHES LOOSE) LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE SOIL'S MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557).
- 2.03 FILL BROUGHT TO THE SITE SHALL BE WITHIN THREE PERCENT (WET OR DRY) OF THE OPTIMUM MOISTURE CONTENT. SOME MANIPULATION OF THE MOISTURE CONTENT (SUCH AS WETTING, DRYING) WILL BE REQUIRED DURING THE FILLING OPERATION TO OBTAIN THE REQUIRED DEGREE OF COMPACTION.
- 2.04 CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS FOR ALL FILL MATERIAL WITHIN AREA OF THE STRUCTURE. A MINIMUM OF ONE (1) TEST SHALL BE PERFORMED AND RESULTS SUBMITTED TO ENGINEER PRIOR TO ACCEPTANCE OF THE STRUCTURE.



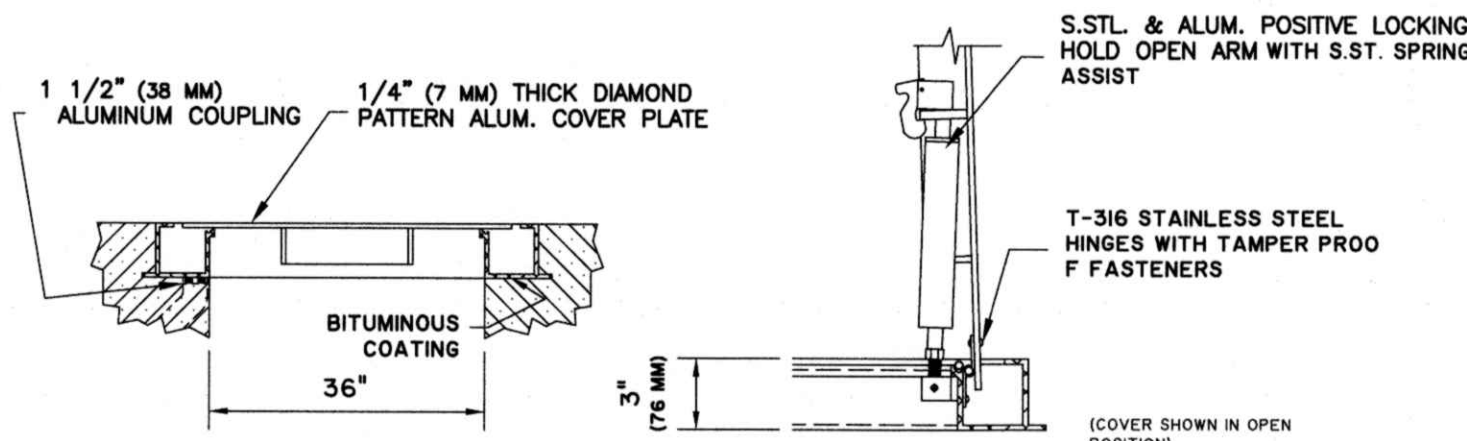
SECTION A-A

ACCESS DOOR DETAIL

SCALE: NONE

NOTE:

1. ALUMINUM ACCESS HATCH SHALL BE EQUIVALENT TO HALLIDAY PRODUCTS MODEL WIS3648 CHANNEL FRAME COVER w/ 300 P.S.F. MINIMUM LOAD RATING.
2. THE ALUMINUM ACCESS HATCH SHALL INCLUDE STEEL SAFETY GRATING. STEEL GRATING SHALL CONFORM TO THE LATEST REVISIONS OF OSHA STANDARDS 1910.23 AND 1910.146. GRATING SHALL BE PAINTED SAFETY ORANGE.

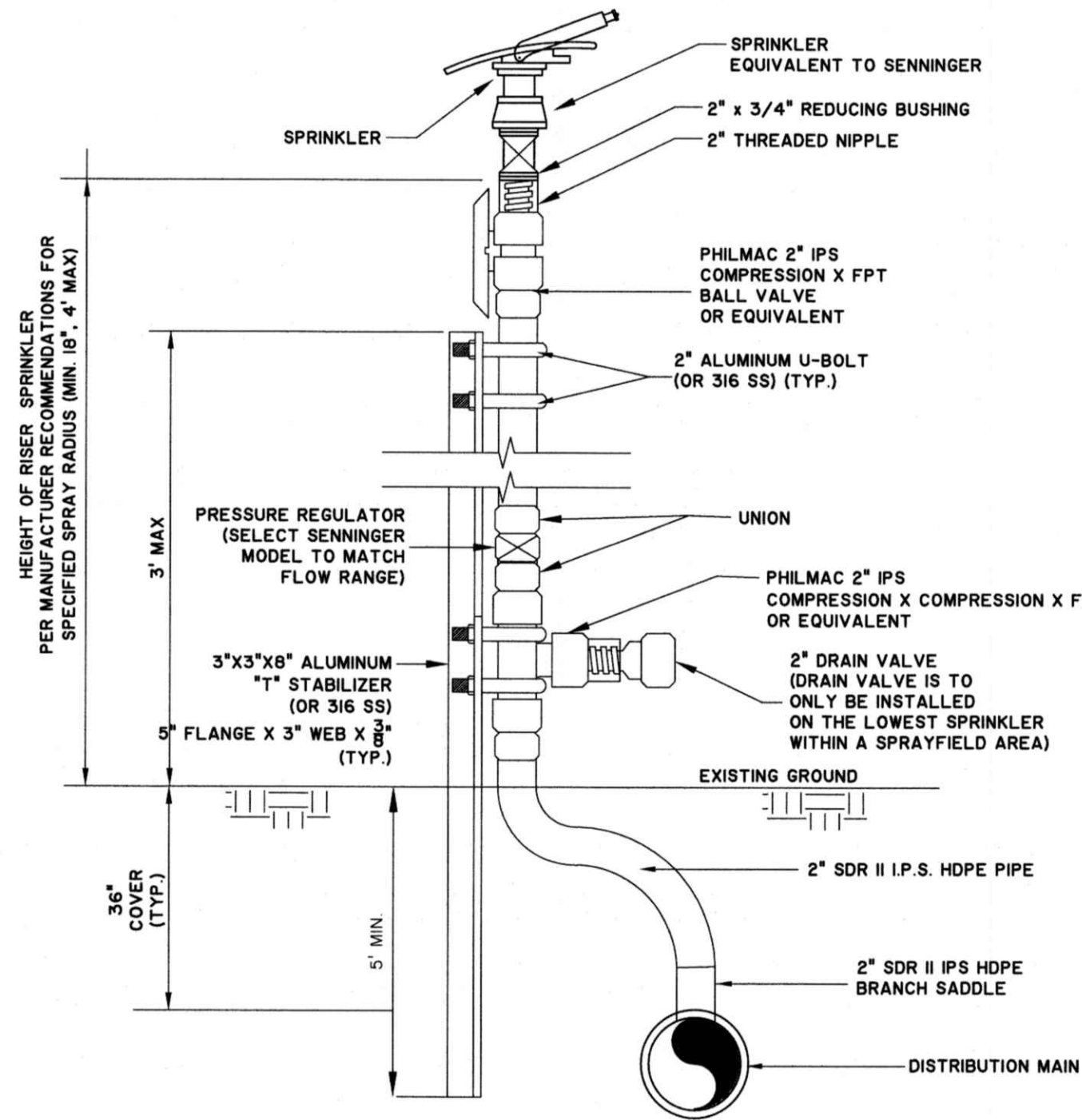


DETAIL

PHASE 1A LAS DESIGN											
Zone	Area (ac)	Model No.	Flow/head (gpm)	Diam. (ft)	Press. (psi)	Spacing (ft)	Equivalent # Heads	Actual # Heads	Frequency (min)	Capacity (gpd)	Cumulative (gpd)
1.01	3.33	5023-2, 18x8	19.3	115	60	60	19.0	19.0	70.38	25,807.50	25,807.50
1.02	3.26	5023-2, 17x8	15.3	110	45	50	23.0	23.0	71.80	25,265.00	51,072.50
1.03	3.42	5023-2, 17x8	15.3	110	45	52	24.5	25.0	70.71	26,505.00	77,577.50
1.04	3.44	5023-2, 18x8	19.3	115	60	65	19.5	20.0	70.84	26,660.00	104,237.50
1.05	3.20	5023-2, 17x8	15.3	110	45	52	23.0	23.0	70.47	24,800.00	129,037.50
TOTAL	16.65									129,037.50	

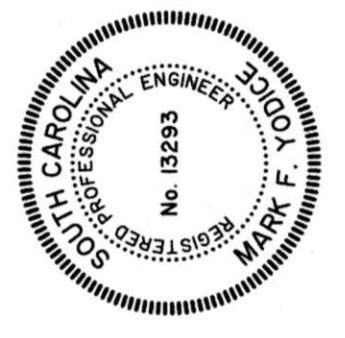
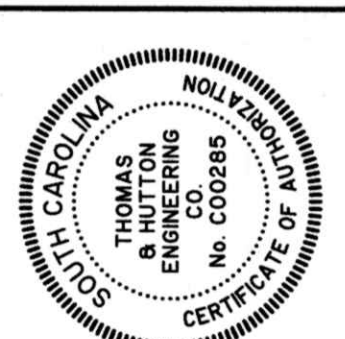
Notes:

1. Model number refers to sprinkler head manufactured by Senniger-Impact 50 Series or approved equal.
2. "Frequency" is the allowable run time per zone per day which provides a minimum spray : rest ratio of 1:20
3. "Capacity" of each zone is calculated based upon 2"/acre/week (7,750 gpd/acre) with all heads running allowable run time
4. Diameter of spray head coverage area is based upon a 1.5 foot mounting height above ground surface
5. Provide purple or lavender caps to denote non-potable or treated effluent water.



SPRAY RISER DETAIL w/ DRAIN

SCALE: NONE



NO.	REVISIONS	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting
www.thomasandhutton.com

KIAWAH RIVER PLANTATION HOLDINGS, LP
CHARLESTON COUNTY, SOUTH CAROLINA
KIAWAH RIVER PLANTATION WWTP PHASE I
DETAILS AND SECTIONS - LAS

JOB NO:	J-25328 0002
DATE:	12/16/16
DRAWN:	DNF
DESIGNED:	KEN
REVIEWED:	MFY
APPROVED:	MFY
SCALE:	AS NOTED

09-C-03

OVIVO

Bringing water to life

2404 Rutland Dr., Suite 200
Austin, Texas 78758
phone: (512) 834-6000 | fax: (512) 834-6039

microBLOX™

Sheet Index

- I-1.1 CODES LEGEND
- I-1.2 SYMBOLS LEGEND
- I-1.3 FINE SCREENS
- I-1.4 MEMBRANE BIOREACTOR ZONES
- I-1.5 TRANSFER AND WAS PUMPS
- I-1.6 PERMEATE CONTROL AND DISINFECTION
- I-1.7 BLOWERS
- I-1.8 SUPPLEMENTAL OXYGEN

INITIAL RELEASE					
REVISION	EN	BY	CHECK'D	DATE	

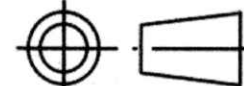
THIS DRAWING CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION OF OVIVO, AND ITS AFFILIATES, AND IS NOT TO BE DISCLOSED NOR TO BE USED EXCEPT FOR EVALUATING PROPOSALS OF OVIVO OR INSTALLING, OPERATING OR MAINTAINING OVIVO EQUIPMENT, UNLESS OTHERWISE AUTHORIZED IN WRITING BY OVIVO.


©COPYRIGHT 2010 OVIVO
ALL RIGHTS RESERVED — REV A

UNCONTROLLED COPY IF PRINTED

DO NOT SCALE PRINTS

WORKMANSHIP STANDARD ES0001 APPLIES





Bringing water to life

microBLOX™

P & I D
COVER SHEET

DATE	6/22/16	BY	MCS	CHECK'D	PDF
DWG SCALE	NONE				
JOB NUMBER	061016-1-DS-R1				
SHEET	I-1.0	OF	9		



THOMAS & HUTTON
Engineering | Surveying | Planning | GIS | Consulting

www.thomasandhutton.com

KIAWAH RIVER PLANTATION
HOLDINGS, LP
CHARLESTON COUNTY, SOUTH CAROLINA

KIAWAH RIVER PLANTATION WWTP PHASE I

MICROBLOX P&ID - COVER SHEET

JOB NO: J-25328-0002
DATE: 12/16/16
DRAWN: DNF
DESIGNED: MFY
REVIEWED: MFY
APPROVED: MFY
SCALE: NO SCALE

I-1.0